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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,296	06/28/2002	Heng-Chien Chen	TRUP0001USA	4440

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MERRIFIELD, VA 22116

EXAMINER

MILORD, MARCEAU

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,296

Applicant(s)

CHEN, HENG-CHIEN

Examiner

Marceau Milord

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelman (US Patent No 6343126 B1) in view of Bilgic et al (US Patent No 6580906 B2).

Regarding claims 1-2, 12, Stelman discloses a telephone system (figs. 1-2) having at least one extension, the telephone system comprising: a central processing circuit for controlling the operation of the extension (col. 4, lines 17-45); an audio processing circuit electrically connected to the central processing circuit (col. 6, lines 5-44; col. 8, lines 8-50), a speaker and a microphone for transmitting audio signals received by the microphone to the central processing unit (col. 5, lines 28-58; col. 7, line 10- col. 8, line 55; col. 12, lines 6- 54).

However, Stelman does not specifically disclose the features of a network controller electrically connected to the central processing circuit and a network port for transmitting

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network signals outputted from the central processing circuit to the network port and transmitting network signals received by the network port to the central processing circuit.

On the other hand, Bilgic et al, from the same field of endeavor, discloses a communication system having a wireless trunk for connecting multiple phone lines over wireless communication links to a cellular network comprises a central telephone switch, such as a private branch exchange or key system, connected through one or more trunk lines to a wireless access communication unit. The wireless access communication unit connects calls received from the central telephone switch's trunk lines over a wireless trunk to a network. A controller within the wireless access communication unit interfaces the subscriber interfaces with a radio transceiver, and assists in the conversion of data from a format suitable for wireless transmission (col. 2, lines 14-65; col. 5, line 29- col. 6, line 40). Furthermore, the subscriber interface comprises a subscriber line audio processing circuit, which carries out analog-to-digital and digital-to-analog conversion between the line card section and the user station connected to the subscriber port. The processor is connected to the control line card assembly, which is connected to the vocoder from each of the line card sections. The control line card assembly provides the interface between the radio section and the line card section of the wireless access communication unit (col. 7, line 25- col. 8, line 46; col. 9, line 5- col. 10, line 55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Bilgic to the communication system of Stelman in order to employ a robust, flexible protocol for providing network services to local users of a PBX, key system or other types of local area network.

Claims 3-4 contain similar limitations addressed in claim 1, and therefore are rejected under a similar rationale.

Regarding claim 5, Stelman as modified discloses a telephone system (figs. 1-2) having at least one extension, wherein the network port of the telephone exchange and the network port of each extension are all of the media type, 10-base-T (col. 8, lines 8-30).

Regarding claim 6, Stelman as modified discloses a telephone system (figs. 1-2) having at least one extension, wherein the network controller of the telephone exchange and the network controller of the extension are all repeaters for relaying the network signals (col. 7, lines 19-64; col. 11, lines 3-43).

Regarding claim 7, Stelman as modified discloses a telephone system (figs. 1-2) having at least one extension, wherein the telephone exchange further comprises an audio processing circuit electrically connected to the central processing circuit and a transmission port for transmitting the audio signals outputted from the central processing circuit to the transmission port or transmitting the audio signals received from the transmission port to the central processing circuit (col. 7, line 19- col. 8, line 45).

Regarding claim 8, Stelman as modified discloses a telephone system (figs. 1-2) having at least one extension, wherein the telephone exchange comprises: a Digital-to-Analog converter for transforming digital audio signals outputted from the central processing circuit into corresponding analog audio signals; and an Analog-to-Digital converter for transforming analog audio signal received from the transmission port into corresponding digital audio signals (col. 4, lines 10-67; col. 7, lines 40-55).

Regarding claim 9, Stelman as modified discloses a telephone system (figs. 1-2) having at least one extension, wherein the transceiver of the telephone exchange and the transceiver of the extension meet the IEEE 802.11 communication protocol defined by IEEE (col. 7, line 39-col. 8, line 45).

Regarding claims 10-12, Stelman as applied to claim 2 above differ from claims 10-11 in the present invention, in that Stelman fails to disclose a transceiver of the extension transmit audio and network signals by direct sequence spread spectrum and code-division multiple access.

However, Bilgic et al, from the same field of endeavor, discloses a communication system having a wireless trunk for connecting multiple phone lines over wireless communication links to a cellular network comprises a central telephone switch, such as a private branch exchange or key system, connected through one or more trunk lines to a wireless access communication unit. The wireless access communication unit connects calls received from the central telephone switch's trunk lines over a wireless trunk to a network. A controller within the wireless access communication unit interfaces the subscriber interfaces with a radio transceiver, and assists in the conversion of data from a format suitable for wireless transmission (col. 2, lines 14-65; col. 5, line 29- col. 6, line 40). Furthermore, the subscriber interface comprises a subscriber line audio processing circuit, which carries out analog-to-digital and digital-to-analog conversion between the line card section and the user station connected to the subscriber port. The processor is connected to the control line card assembly, which is connected to the vocoder from each of the line card sections. The control line card assembly provides the interface between the radio section and the line card section of the wireless access communication unit (col. 7, line 25- col. 8, line 46; col. 9, line 5-col. 10, line 55). In addition, the protocol makes use

of time division multiple accesses, code division multiple access, and spread spectrum techniques (col. 24, lines 2- 41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Bilgic to the communication system of Stelman in order to employ a robust, flexible protocol for providing network services to local users of a PBX, key system or other types of local area network.

Regarding claim 13, Stelman as modified discloses a telephone system (figs. 1-2) having at least one extension, wherein the audio processing circuit of the extension comprises: a Digital-to-Analog converter for transforming the digital audio signals outputted from the central processing unit to the corresponding analog audio signals; and an Analog-to-Digital converter for transforming the analog audio signals received from the microphone to the corresponding digital audio signals (col. 4, lines 10-67; col. 7, lines 40-55).

Regarding claims 14-15, 25, Stelman discloses a method of signal processing for a telephone system (figs. 1-2) having at least one extension, the method comprising: a central processing circuit for controlling the operation of the extension (col. 4, lines 17-45) an audio processing circuit electrically connected to the central processing circuit and a speaker and a microphone (col. 6, lines 5-44; col. 8, lines 8-50); the method of signal processing comprising: transmitting the audio signals outputted from the central processing circuit to the speaker and transmitting the audio signals received from the microphone to the central processing circuit (col. 5, lines 28-58; col. 7, line 10- col. 8, line 55; col. 12, lines 6- 54).

However, Stelman does not specifically disclose the features of a network controller electrically connected to the central processing circuit and a network port; and transmitting the

network signals outputted from the central processing circuit to the network port, and transmitting the network signals received from the network port to the central processing circuit.

On the other hand, Bilgic et al, from the same field of endeavor, discloses a communication system having a wireless trunk for connecting multiple phone lines over wireless communication links to a cellular network comprises a central telephone switch, such as a private branch exchange or key system, connected through one or more trunk lines to a wireless access communication unit. The wireless access communication unit connects calls received from the central telephone switch's trunk lines over a wireless trunk to a network. A controller within the wireless access communication unit interfaces the subscriber interfaces with a radio transceiver, and assists in the conversion of data from a format suitable for wireless transmission (col. 2, lines 14-65; col. 5. line 29- col. 6, line 40). Furthermore, the subscriber interface comprises a subscriber line audio processing circuit, which carries out analog-to-digital and digital-to-analog conversion between the line card section and the user station connected to the subscriber port. The processor is connected to the control line card assembly, which is connected to the vocoder from each of the line card sections. The control line card assembly provides the interface between the radio section and the line card section of the wireless access communication unit (col. 7, line 25- col. 8, line 46; col. 9, line 5-col. 10, line 55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Bilgic to the communication system of Stelman in order to employ a robust, flexible protocol for providing network services to local users of a PBX, key system or other types of local area network.

Claims 16-17 contain similar limitations addressed in claims 14-15, and therefore are rejected under a similar rationale.

Regarding claim 18, Stelman as modified discloses a method of signal processing for a telephone system (figs. 1-2) having at least one extension, wherein the network port of the Telephone exchange and the network port of the extension are all of the media type, 10base-T (col. 8, lines 8-30).

Regarding claim 19, Stelman as modified discloses a method of signal processing for a telephone system (figs. 1-2) having at least one extension, wherein the network controller of the telephone exchange and the network controller of the extension are all repeaters for relaying the network signals (col. 7, lines 19-64; col. 11, lines 3-43).

Regarding claim 20 Stelman as modified discloses a method of signal processing for a telephone system (figs. 1-2) having at least one extension, wherein the telephone exchange further comprises: an audio processing circuit electrically connected to the central processing circuit; and a transmission port for transmitting the audio signals outputted from the central processing circuit to the transmission port or transmitting the audio signals received from the transmission port to the central processing circuit (col. 7, line 19- col. 8, line 45).

Regarding claim 21, Stelman as modified discloses a method of signal processing for a telephone system (figs. 1-2) having at least one extension, wherein the audio processing circuit of the telephone exchange comprises: a Digital-To-Analog converter for transforming the digital audio signals outputted from the central processing unit to the corresponding analog audio

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signals; and an Analog-To-Digital converter for transforming the analog audio signals received from the microphone to the corresponding digital audio signals (col. 4, lines 10-67; col. 7, lines 40-55).

Regarding claim 22, Stelman as modified discloses a method of signal processing for a telephone system (figs. 1-2) having at least one extension, wherein the transceiver of the telephone exchange and the transceiver of the extension meet the IEEE 802.11 communication protocol defined by IEEE (col. 7, line 39- col. 8, line 45).

Regarding claims 23-24, Stelman as applied to claim 15 above differ from claims 23-24 in the present invention, in that Stelman fails to disclose a transceiver of the extension transmit audio and network signals by direct sequence spread spectrum and code-division multiple access.

However, Bilgic et al, from the same field of endeavor, discloses a communication system having a wireless trunk for connecting multiple phone lines over wireless communication links to a cellular network comprises a central telephone switch, such as a private branch exchange or key system, connected through one or more trunk lines to a wireless access communication unit. The wireless access communication unit connects calls received from the central telephone switch's trunk lines over a wireless trunk to a network. A controller within the wireless access communication unit interfaces the subscriber interfaces with a radio transceiver, and assists in the conversion of data from a format suitable for wireless transmission (col. 2, lines 14-65; col. 5, line 29- col. 6, line 40). Furthermore, the subscriber interface comprises a subscriber line audio processing circuit, which carries out analog-to-digital and digital-to-analog conversion between the line card section and the user station connected to the subscriber port. The processor is connected to the control line card assembly, which is connected to the vocoder

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from each of the line card sections. The control line card assembly provides the interface between the radio section and the line card section of the wireless access communication unit (col. 7, line 25- col. 8, line 46; col. 9, line 5-col. 10, line 55). In addition, the protocol makes use of time division multiple accesses, code division multiple access, and spread spectrum techniques (col. 24, lines 2- 41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Bilgic to the communication system of Stelman in order to employ a robust, flexible protocol for providing network services to local users of a PBX, key system or other types of local area network.

Regarding claim 26, Stelman as modified discloses a method of signal processing for a telephone system (figs. 1-2) having at least one extension, wherein the audio processing circuit of the extension comprises: a Digital-To-Analog converter for transforming the digital audio signals outputted from the central processing unit to the corresponding analog audio signals; and an Analog-To-Digital converter for transforming the analog audio signals received from the microphone to the corresponding digital audio signals (col. 4, lines 10-67; col. 7, lines 40-55).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Guy et al US Patent No 5940479 discloses a system and method for transmitting aural signals across a wide area network from a local phone coupled to a computer.

King et al US Patent No 6396918 B1 discloses a method for forwarding a call to a telephone behind a key telephone system.

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Andruska et al US Patent No 5937035 discloses a method and apparatus for monitoring station from a monitoring terminal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 703-306-3023. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD

Marceau Milord

Examiner

Art Unit 2682


MARCEAU MILORD
PRIMARY EXAMINER

1-16-05